

AMENDMENTS TO THE CLAIMS

1. (Currently Amended) A serial data conversion apparatus, comprising:

a video signal packet conversion unit ~~for converting~~ configured to convert a characteristic signal of a video signal into a video signal characteristic packet and to simultaneously ~~converting~~ convert a video signal into a video signal packet by the characteristic signal of a video signal, horizontal/ vertical synchronization signals, and a video clock signal;

an audio signal packet conversion unit ~~for converting~~ configured to convert a characteristic signal of an audio signal into an audio signal characteristic packet and to simultaneously ~~converting~~ convert an audio signal into an audio signal packet by the characteristic signal of an audio signal, left/ right control signals, and an audio clock signal; and

a control signal packet conversion unit ~~for converting~~ configured to convert a control signal into a control signal packet by an informing signal which informs a generation of a control signal,

wherein the video signal packet conversion unit comprises:

a video signal characteristic recognizing unit configured to recognize video signal characteristics from an input characteristic signal of a video signal and to generate a video signal characteristic packet;

a video signal control unit configured to directly receive the video signal characteristics from the video signal characteristic recognizing unit and to generate a header and a tail of a

video signal based on the received video signal characteristics, input horizontal/ vertical synchronization signals and a video clock signal and to simultaneously output a video signal;
a video signal memory unit configured to directly receive the video signal output by the video signal control unit and to store video signal; and
a multiplexer directly connected to the video signal control unit and the video signal memory unit and configured to select a header and a tail output by the video signal control unit and a video signal output by the video signal memory unit to thus generating a video signal packet.

2. (Canceled).
3. (Currently Amended) The apparatus of claim 1, wherein the audio signal packet conversion unit comprises:
 - an audio signal characteristic recognizing unit ~~for recognizing~~ configured to recognize audio signal characteristics by a characteristic signal of an audio signal and generating an audio signal characteristic packet;
 - an audio signal control unit ~~for generating~~ configured to generate a header and a tail of an audio signal by audio signal characteristics recognized by the audio signal characteristic recognizing unit, left/ right control signals, and an audio clock signal and to simultaneously ~~controlling~~ control a storage and an output of an audio signal;

an audio signal memory unit for storing configured to store and outputting output an audio signal by a control of the audio signal control unit; and

a multiplexer for selecting configured to select a header and a tail of the audio signal control unit and an audio signal of the audio signal memory unit by a control of the switching control unit and to thus generating generate an audio signal packet.

4. (Currently Amended) The apparatus of claim 1, wherein the control signal packet conversion unit comprises:

a control signal control unit for generating configured to generate a header and a tail according to an informing signal of a control signal and controlling to control a storage and an output of a control signal;

a control signal memory unit for storing configured to store and outputting output a control signal according to a control of the control signal control unit; and

a multiplexer for selecting configured to select a header and a tail of the control signal control unit and a control signal of the control signal memory unit by a control of the switching control unit and to thus generating generate a control signal packet.

5. (Currently Amended) A serial data conversion apparatus comprising:

a video signal packet conversion unit for converting configured to convert a characteristic signal of a video signal into a video signal characteristic packet and to simultaneously converting convert a video signal into a video signal packet by the characteristic signal of a video signal, horizontal/ vertical synchronization signals, and a video clock signal;

an audio signal packet conversion unit ~~for converting~~ configured to convert a characteristic signal of an audio signal into an audio signal characteristic packet and to simultaneously ~~converting~~ convert an audio signal into an audio signal packet by the characteristic signal of an audio signal, left/ right control signals, and an audio clock signal;

a control signal packet conversion unit ~~for converting~~ configured to convert a control signal into a control signal packet by an informing signal which informs a generation of a control signal;

a multiplexer ~~for switching~~ configured to switch and ~~selecting~~ select the video signal characteristic packet, the video signal packet, the audio signal characteristic packet, the audio signal packet, and the control signal packet by a certain format structure;

a switching control unit ~~for controlling~~ configured to control a conversion of the video signal packet, the audio signal packet, and the control signal packet and controlling a switching operation of the multiplexer;

an encoder ~~for encoding~~ configured to encode an output signal of the multiplexer;

a parallel/ serial conversion unit ~~for converting~~ configured to convert an output signal of the encoder into serial data; and

an optical signal transmitting unit ~~for converting~~ configured to convert serial data converted at the parallel/ serial conversion unit into an optical signal and then transmitting,

wherein the video signal packet conversion unit comprises:

a video signal characteristic recognizing unit configured to recognize video signal characteristics from an input characteristic signal of a video signal and to generate a video signal characteristic packet;

a video signal control unit configured to directly receive the video signal characteristics from the video signal characteristic recognizing unit and to generate a header and a tail of a video signal based on the received video signal characteristics, input horizontal/ vertical synchronization signals and a video clock signal and to simultaneously output a video signal;

a video signal memory unit configured to directly receive the video signal output by the video signal control unit and to store video signal; and

a multiplexer directly connected to the video signal control unit and the video signal memory unit and configured to select a header and a tail output by the video signal control unit and a video signal output by the video signal memory unit to thus generating a video signal packet.

6. (Canceled).

7. (Currently Amended) The apparatus of claim 5, wherein the audio signal packet conversion unit comprises:

an audio signal characteristic recognizing unit ~~for recognizing~~ configured to recognize audio signal characteristics by a characteristic signal of an audio signal and ~~generating~~ to generate an audio signal characteristic packet;

an audio signal control unit ~~for generating~~ configured to generate a header and a tail of an audio signal by audio signal characteristics recognized by the audio signal characteristic recognizing unit, left/ right control signals, and an audio clock signal and to simultaneously ~~controlling~~ control a storage and an output of an audio signal;

an audio signal memory unit ~~for storing~~ configured to store and ~~outputting~~ output an audio signal by a control of the audio signal control unit; and

a multiplexer ~~for selecting~~ configured to select a header and a tail of the audio signal control unit and an audio signal of the audio signal memory unit by a control of the switching control unit and to thus ~~generating~~ generate an audio signal packet.

8. (Currently Amended) The apparatus of claim 5, wherein the control signal packet conversion unit comprises:

a control signal control unit ~~for generating~~ configured to generate a header and a tail according to an informing signal of a control signal and ~~controlling~~ to control a storage and an output of a control signal;

a control signal memory unit ~~for storing~~ configured to store and outputting output a control signal according to a control of the control signal control unit; and

a multiplexer ~~for selecting~~ configured to select a header and a tail of the control signal control unit and a control signal of the control signal memory unit by a control of the switching control unit and to thus ~~generating~~ generate a control signal packet.

9-13 (Canceled).